SOFTWARE PLUG-IN REVERB & AMBIENCE PROCESSING
FOR PRO TOOLS® SYSTEMS

digidesign®

D-Verb™

Software User's Guide

Version 1.3.1

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Getting Started

Getting Started

Introduction

Thank you for purchasing D-Verb.™ D-Verb is a high-quality reverb Plug-In for TDM and AudioSuite-capable Pro Tools® systems. D-Verb is designed for audio professionals who require studio-quality reverb with the flexibility of a software-based Plug-In.

Here is what D-Verb provides:

- Professional-quality reverb processing.
- D-Verb can be used as either a real-time TDM Plug-In or as a non-real-time AudioSuite Plug-In. (*Please note that the D-Verb AudioSuite Plug-In is designed for use on Power Macintosh® computers only.*)
- Expandability. The more DSP available on your Pro Tools system, the more D-Verbs you can utilize in a session. Each D-Verb Plug-In requires one full DSP chip on either PCI-based or NuBus-based Pro Tools systems.

System Requirements

In order to use the D-Verb Plug-In, you will need:

- A PCI or Nubus-based Pro Tools system. (A Power Macintosh is required in order to use the AudioSuite version of D-Verb.)
- Pro Tools software, version 4.0 or higher

For the latest list of qualified CPUs and hard drives, contact your Digidesign dealer or call Digidesign at (800) 333-2137. This list is periodically updated.

Installing The D-Verb Plug-In

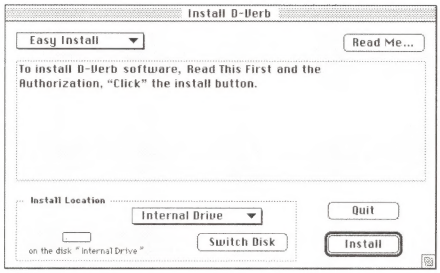
The D-Verb Plug-In is copy-protected with a simple key disk protection scheme. Your *D-Verb Installer* disk permits one installation, referred to as a hard disk *authorization* of the D-Verb Plug-In. The *D-Verb Installer* floppy disk also permits you to reclaim this authorization from your hard disk if necessary.

Send in Your D-Verb Registration Card to Receive a Backup Authorization Disk

When you send your D-Verb Registration Card, Digidesign Customer Services will mail you a floppy disk containing an additional authorization key for your D-Verb Plug-In. As a registered user you'll also receive periodic software updates and notification of upgrades. If you are an international customer, please consult the list of international distributors included with your system for registration. Don't delay. Send in your Registration Card as soon as possible.

To install D-Verb on your computer:

1. If you are using virus-protection software, turn it off or temporarily remove it and restart your Macintosh.
2. Insert the *Install 1* floppy disk in your floppy drive and double-click the file named "*Install D-Verb*."
3. When the *Install Notes* screen appears, read it for any important, late-breaking D-Verb information, then click *Continue* to proceed. This window appears:



The D-Verb Installer

4. Use the *Switch Disk* button to select the hard disk on which you wish to install the D-Verb Plug-In. Select the same drive on which you installed the Pro Tools application (your Startup Drive).

5. We recommend that you choose the *Easy Install* option. Do not use the *Custom Install* option unless you know exactly what you are doing — if you skip any essential items, your software may not function correctly.

6. Click *Install*. The D-Verb Plug-In will be installed in a folder named *"Plug-Ins"* in the DAE Folder within your System Folder.

7. During installation, the Installer will prompt you to insert the appropriate disks.

8. When authorization is complete, a dialog will appear indicating that the installation was successful. This dialog contains two buttons: *Quit* and *Continue*.

9. If you wish to install the D-Verb Plug-In on another hard disk, click *Continue* and perform additional installations.

10. If you are finished with your D-Verb installation, click *Quit to* return to the Finder. You do not need to restart your computer.

11. If you disabled any virus-protection software prior to installing D-Verb, don't forget to turn it back on.

Before using the D-Verb software, please take time to look at the "Read This First" document installed with D-Verb. It contains important late-breaking information not found in this User's Guide.

Deauthorizing the D-Verb Plug-In

Your *D-Verb Installer* disk allows a single hard disk authorization of the D-Verb Plug-In. Once you have used this, you cannot perform another authorization until you reclaim it using the D-Verb DeAuthorizer. The following section explains how to do this.

If you do not wish to learn how to deauthorize D-Verb at this at this time, you can skip this section.

To deauthorize the D-Verb Plug-In:

1. Make sure that the hard disk you want to deauthorize is connected to the Macintosh and appears on the Finder's Desktop.

2. Insert the *D-Verb Installer* disk into your floppy drive.

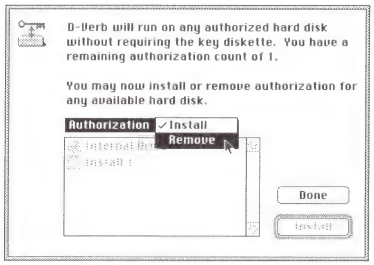
3. Double-click the file named *"D-Verb DeAuthorizer."*

4. In the dialog that appears. Click *Setup*.

You are running D-Verb from the key diskette. Authorized copies can run on your hard disk without requiring this key diskette.
Select Setup to install or remove authorization for any available hard disk. Select Continue to run this copy or Quit to quit this software.
Setup...
Quit
Continue

The D-Verb DeAuthorizer

5. A second dialog appears, showing a list of connected hard drives. From the *Authorization* pop-up menu, select *Remove,* then select the appropriate hard drive (your Startup Drive).


D-Verb will run on any authorized hard disk without requiring the key diskette. You have a remaining authorization count of 1.
You may now install or remove authorization for any available hard disk.
Authorization
Install
Remove
Done

Selecting "Remove" in the DeAuthorizer dialog

6. Click the *Remove* button. The Deauthorizer removes the authorization from the selected hard drive. A dialog will appear confirming successful deauthorization. Click *OK* to proceed.

7. Click *Done* to return to the Finder.

Deauthorization is now complete. If you now try to launch Pro Tools, a dialog will appear informing you that you are using an unauthorized copy of the D-Verb Plug-In every time you start the application. This dialog only appears if you try to launch Pro Tools with a D-Verb Plug-In that is not currently authorized.

Deauthorization can also be performed with the D-Verb Installer using its "Remove" feature. If you select D-Verb for removal, the Installer will ask you to insert the D-Verb Installer floppy disk to retrieve the authorization key.

Do not lose or alter your D-Verb Installer disk! You will not be able to complete an installation without it. Keep the disk in a safe place to avoid any accidents.

DSP Requirements for D-Verb

D-Verb and other TDM Plug-Ins reside in DAE's memory. As each Plug-In is used, or *instantiated*, it uses up a portion of DAE's memory. The following section explains the memory requirements for each D-Verb Plug-In and how to allocate additional memory to DAE if necessary.

This information does not apply to the AudioSuite version of D-Verb.

DSP Requirements for The D-Verb Plug-In:

- A single DSP on a PCI-based DSP Farm will power one D-Verb Plug-In, either mono or stereo.
- A single DSP on a NuBus-based DSP Farm will power one D-Verb Plug-In either mono or stereo.

Allocating Additional Memory to DAE

If you are using a large number of Plug-Ins in addition to your new D-Verb Plug-In, you may wish to allocate additional memory to DAE using the Finder's *Get Info* dialog in order to avoid low-memory problems with DAE.

To allocate additional memory to DAE for Plug-Ins:

1. Start Pro Tools so that DAE can calculate its basic memory allocation.
2. Go to the Finder, and under the Apple menu, choose *About This Macintosh*.
3. If you have 3 megabytes or more of memory available (as indicated in the *Largest Unused Block* portion of this window), go to step 4. If you have less than 3 megabytes of free memory (3,000k), stop here: Digidesign doesn't recommend allocating additional memory to

DAE unless you purchase additional RAM (random-access memory) and install it in your computer.

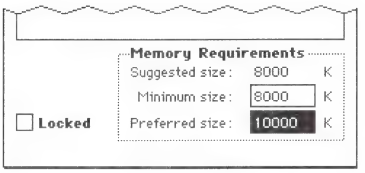
4. Quit Pro Tools.

5. Open the DAE folder inside your System Folder, select DAE, and choose *Get Info* from the Finder's File menu.

6. Enter the desired amount of memory *above the minimum requirement* in the *Preferred Size* field. For example, if the *Preferred Size* currently says "8000k" and you wish to allocate an additional 2 megabytes of memory (1 megabyte equals 1000 kilobytes), then you should enter "10000" into the *Preferred Size* field.

7. Close the *Get Info* dialog.

8. The next time you start Pro Tools, DAE will use this new memory allocation.



Allocating additional memory to DAE

This completes installation of your D-Verb Plug-In. You should now be ready to open Pro Tools and start using D-Verb. Chapter 2 of this User's Guide explains the controls and parameters of the D-Verb Plug-In. Chapter 3 explains how to use the D-Verb Plug-In as both a real-time TDM Plug-In and as a non real-time AudioSuite Plug-In.

We hope that you find many creative uses for D-Verb in your audio projects.

The D-Verb Plug-In Explained

The D-Verb Plug-In Explained

Introduction

This chapter explains the parameters and controls of the D-Verb Plug-In. After you have familiarized yourself with the functions of D-Verb, please refer to Chapter 3 to learn how to use it as either a real-time TDM Plug-In or as a non-real-time AudioSuite Plug-In.

About Reverb

Digital reverberation processing can simulate the complex natural reflections and echoes that occur after a sound has been produced, imparting a sense of space and depth—the signature of an acoustic environment. When you use a reverberation device such as D-Verb, you are artificially creating a sound space with a specific acoustic character. This character can be melded with audio material, with the end result being an adjustable mix of the original dry source and the reverberant wet signal. Reverberation can take relatively lifeless mono direct sources and create an acoustic environment (in stereo) that gives the source a perceived weight and depth in a mix.

In addition, digital signal processing can be used creatively to produce reverberation characteristics that do not exist in nature. There are no rules that need to be followed to produce interesting treatments. Experimentation can often produce striking new sounds.

When you hear live sound in an acoustic environment, you generally hear much more than just the direct sound from the source. (In fact, sound in an anechoic chamber, devoid of an acoustic space's character can sound downright unpleasant.) Each real world acoustical venue, from a small room to a large cathedral, has its own unique acoustical character that it imparts to the sound, which excites it. The character of the reverberation, which is in effect a mixture of the nature of the excitation source and the characteristic of the acoustical space, depends on a number of things. These include proximity to the sound source, the shape of the space, the absorptivity of the construction material, and the position of the listener.

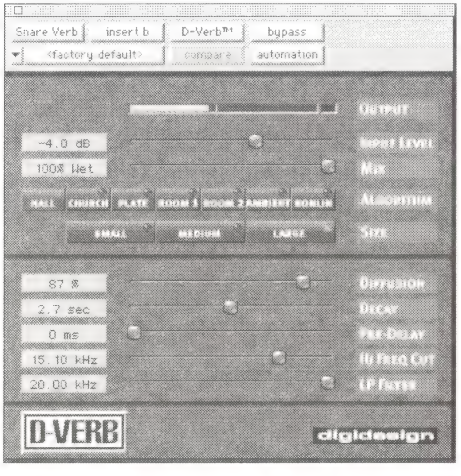
In a typical concert hall, sound reaches the listener shortly after it is produced. The original direct sound is followed by reflections from the ceiling or walls. Reflections that arrive within 50 to 80 milliseconds of the direct sound are called *early reflections*. Subsequent reflections are called *late reverberation*. Early reflections provide a sense of depth and strengthen the perception of loudness and clarity. The delay time between the arrival of the direct sound and the beginning of early reflections is called the *pre-delay*.

The loudness of later reflections combined with a large pre-delay can contribute to the perception of largeness of an acoustical space. Early reflections are followed by reverberation and repetitive reflections and attenuation of the original sound reflected from walls, ceilings, floors, and other objects. This sound provides a sense of depth or size.

D-Verb provides control over most of these reverberation parameters so that extremely natural-sounding reverb effects can be created an applied in the Pro Tools mix environment.

D-Verb Controls

The following section explains all of D-Verb's parameters and their use.



The D-Verb Plug-In

Output Meter

The *output meter* indicates the output level of the processed signal. (In the case of the stereo version of D-Verb, it represents the summed stereo output.) It is important to note that this meter indicates the output level of the signal—not the input level. If this meter clips, it is possible that the signal actually clipped on input before it reached D-Verb. Be careful to monitor your send or insert signal levels closely to help prevent this from happening.

Clip Indicator

This indicator shows if clipping has occurred. It is a clip hold indicator, meaning that if clipping occurs at any time, the clip light will remain on. To clear the clip indicator, click it with the mouse. With longer reverb times there is a greater likelihood of clipping occurring as the feedback element of the reverb builds up and approaches a high output level.

Input Level

The *input level* slider allows you to adjust the input volume of the reverb to prevent the possibility of clipping and/or increase the level of the processed signal.

Wet/Dry

The *Wet/Dry* slider allows you to adjust the balance between the dry signal and the effected signal, giving you control over the depth of the effect. This parameter is adjustable from 100% to 0%.

Algorithm

This control allows you to select one of seven reverb algorithms: *Hall, Church, Plate, Room 1, Room 2, Ambience, or Nonlinear.* Selecting an algorithm changes the preset provided for it. Switching the *Size* parameter actually changes characteristics of the algorithm that are not altered by simply adjusting the decay time and other user-adjustable parameters. Each of the seven algorithms has a distinctly different character, described as follows:

- *Hall*: A good general purpose concert hall with a natural character. It is useful over a large range of size and decay times and with a wide range of program material. When the decay time is set to its maximum value, infinite reverberation can be created, for special effects purposes.

- *Church*: A large, dense, diffuse space simulating a church or cathedral with a long decay time, high diffusion, and some pre-delay. High-frequency content has been restricted on the preset setting in order to simulate the characteristics of such an environment. When decay time is set to its maximum value, infinite reverberation can be created.
- *Plate*: This algorithm simulates the acoustic character of a metal plate-based reverb. This type of reverb typically has high initial diffusion and a relatively bright sound, making it particularly good for certain percussive signals and vocal processing. Plate reverb has the general effect of thickening the initial sound itself. Infinite reverb is provided when decay time is set to maximum.
- *Room 1*: A medium-sized, natural, rich-sounding room that can be effectively varied in size between very small and large, with good results. Infinite reverb is provided when decay time is set to maximum.
- *Room 2*: A smaller, brighter reverberant characteristic than Room 1, with a useful adjustment range that extends to "very small." Infinite reverb is provided when decay time is set to maximum.
- *Ambient*: This algorithm has a rather transparent response that is useful for adding a sense of space without adding a lot of depth or density. Extreme settings can create interesting results.
- *Nonlinear*: This algorithm produces a reverberation with a natural buildup and an abrupt cut off similar to a gate. This unnatural decay characteristic is particularly useful on percussion, since it can add an aggressive characteristic to sounds with strong attacks.

Size

This control, in conjunction with the *Algorithm* parameter, allows you to adjust the overall size of the reverberant space. There are three sizes: *Small, Medium,* and *Large*. The character of the reverberation changes with each of these settings (as does the relative value of the *Decay* parameter). The *Size* buttons can be used to vary the range of a reverb from large to small. Generally, you should select an algorithm first, and then choose the size that approximates the size of the acoustic space that you are trying to create.

Diffusion

This control sets the degree to which initial echo density increases over time. High settings result in high initial buildup of echo density. Low settings cause low initial buildup. This control interacts with the *Size* and *Decay* parameters to affect the overall reverb density. High settings of diffusion can be used to enhance percussion. Use low or moderate settings for clearer and more natural-sounding vocals and mixes.

Decay

This control allows you to adjust the rate at which the reverb decays after the original direct signal stops. The value of the decay parameter is affected by the *Size* and *Algorithm* parameters. This parameter can be set to infinity on most algorithms for infinite reverb times.

Pre-Delay

This parameter controls the amount of pre-delay. It has a maximum setting of 370 milliseconds. Pre-delay sets the amount of time which elapses between the input of a signal and the onset of reverberation. Under natural conditions, the amount of pre-delay depends on the size and construction of the acoustic space and the relative position of the sound source and the listener. Pre-delay attempts to duplicate this phenomenon and is used to create a sense of distance and

volume within an acoustic space. Relatively long pre-delay settings place the reverberant field further behind rather than directly next to the input material.

Hi Frequency Cut

This parameter controls the decay characteristic of the high frequency components of the reverb. It acts in conjunction with the Low Pass Filter control to create the overall high frequency contour of the reverb. When set relatively low, high frequencies decay more quickly than low frequencies, simulating the effect of air absorption in a hall.

Low-Pass Filter

This parameter controls the overall high frequency content of the selected reverb by allowing you to set the frequency above which a 6dB/octave filter attenuates (cuts) the processed signal.

Numeric Entry of D-Verb Values

The D-Verb Plug-In allows you to enter numeric values for its parameters using your computer keyboard. This can often be faster and more precise than adjusting D-Verb's controls with a mouse.

To enter D-Verb parameter values via keyboard:

- Activate the desired parameter's numeric field by clicking on it. You can then navigate from field to field using Tab and Shift-Tab.
- Once you have entered a value, press the Return key to execute it and deselect the field. Pressing the Enter key executes the value but leaves the field highlighted, enabling further numeric entry.
- Pressing the Escape key when the field is highlighted voids the entry and returns the value to the original setting.
- Using the up/down arrow keys increments/decrements the value in the active field.
- For direct numeric entry, type the numbers on your keyboard. Use the minus key for negative values.
- Clicking anywhere on D-Verb's background will enter the current value in the field and deactivate numeric entry via keyboard.
- Option-clicking on a control or numeric entry/display area will return it to its default setting.

You should now understand all of the controls and parameters of the D-Verb Plug-In. Now turn to Chapter 3 to learn how to use D-Verb as either a real-time TDM Insert or as a non-real-time AudioSuite Plug-In.

Using The D-Verb Plug-In

Using the D-Verb Plug-In

Introduction

This chapter explains how to use the D-Verb Plug-In as a real-time TDM Insert and as a non-real-time AudioSuite Plug-In for file-based processing.

If you need more detailed instructions about the how and why of using Plug-Ins, please refer to *Working with Plug-Ins* chapter of your Pro Tools *Reference Guide*. There you'll find a comprehensive guide to the Plug-In related features and functions of your Pro Tools software.

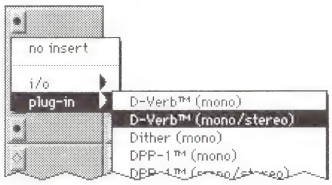
If you are using the D-Verb Plug-In with a Third-party audio sequencer, please consult that application's User's Guide for information specific to using Plug-Ins.

Using D-Verb as a Real-Time TDM Insert

When you use D-Verb in real time as a TDM Insert, it will process audio non-destructively during playback. This allows you make good use of its effects without permanently modifying the original audio file. To do this:

To use D-Verb as a track Insert:

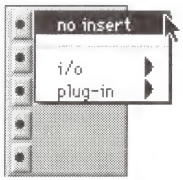
1. Click the *Inserts* pop-up on the desired track and select desired version of D-Verb, either *mono* or *mono/stereo*. The *Inserts/Send Editor* appears.
2. Click *Play* on the Transport to begin audio playback.
3. Adjust D-Verb's parameters until you achieve the effect that you desire.



Selecting D-Verb as an Insert

To remove D-Verb from a track:

1. Click the *Insert Selector* button and choose *No Insert* from the pop-up menu. D-Verb is removed.



Removing a Plug-In Insert from a track

Customizing a Reverb Sound

Though choosing any of D-Verb's seven reverb algorithms will provide you with a very usable reverb, you will still probably wish to customize and create your own effects to suit your liking. You can do this by simply adjusting any of D-Verb's parameters and saving the settings file.

When you create a reverb sound of your own, you may wish to do it in this order:

1. Choose the type of space you wish to create. Do this by listening to each of D-Verb's seven algorithms (*Hall, Church, Plate, Room 1, Room 2, Ambience,* or *Nonlinear*) and choose the one that sounds closest to what you have in mind.
2. Next, use the *Size* parameter (*Small, Med,* or *Large*) to make the reverb larger or smaller as you wish.
3. Use the *Decay* slider to fine-tune the amount of time that it takes for the reverb to die away at the end of a sound.
4. Use the *Diffusion* slider to control how echo density increases over time.
5. Use the *Pre-delay* slider to control the amount of time that elapses before reverberation takes place.
6. Adjust *Hi Freq Cut* slider to set the frequency above which high-frequency sounds decay at a progressively faster rate.
7. Adjust the *LP Filter* slider to set the frequency above which the filter attenuates the processed signal.

Keyboard Shortcuts

- For finer adjustments, hold down the Command key, then drag the desired parameter slider.
- To return a control to its default value, Option-click on it.

Automating D-Verb

If you wish, you can use Pro Tools' automation capabilities to automate changes in D-Verb's parameters in real time. Since Pro Tools creates a separate playlist for each D-Verb parameter that you automate, you can later edit and modify each automated parameter individually, if you wish. This allows you to build up complex automation in stages.

To automate D-Verb:

1. From Pro Tools' Display menu, choose *Show Automation Enable Window*. The Automation Enable window appears.
2. In the Automation Enable window, click the *Plug-In* button to enable automation recording for Plug-Ins. You must do this before recording any automation for D-Verb.
3. In the Mix window, select the desired automation mode from the target track's *Automation* pop-up. For an initial automation pass, you may wish to choose *Auto Write*.
4. Open the Inserts/Sends Editor with the desired D-Verb Plug-In displayed.
5. Click the *Automation* button. When the *Plug-In Automation* dialog appears, select the parameters that you wish to automate and click the *Add* button. Only the parameters that you choose here will be automatable.
6. Click *OK* to close this dialog. The sliders of parameters that are automation record-enabled are highlighted in green.
7. When you are ready to begin, click *Play* or press the Space bar. Automation recording begins.
8. Move the sliders of the D-Verb parameters you have enabled for automation. Pro Tools records these automation moves.

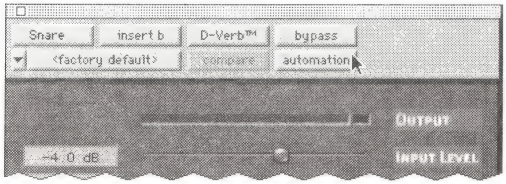
9. When you have finished, click *Stop* or press the Space bar again. (If you are in *Touch* mode, automation recording will automatically stop when you release the mouse or controller, and fade back to the original level as specified in the *AutoMatch Time* Preference.)

10. Click *Return to Zero* and then *Play* on the Transport to listen to the effects of your automation.

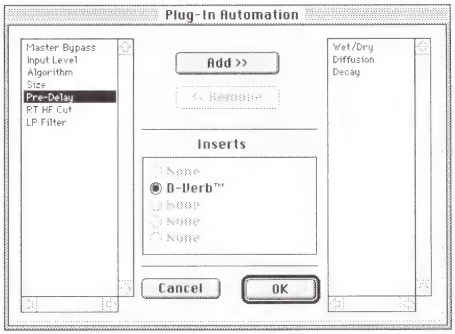
11. If you are satisfied, make sure to save your session by choosing the *Save Session* command from Pro Tools' File menu.

12. If you wish to add additional automation or augment your previous pass, follow the above procedure, using *Touch* mode. This will allow you to add new automation only when you actually move a fader. It will not erase previous automation data unless you move the fader at that point in the session.

Before you automate any D-Verb parameters, be sure that Plug-In automation is enabled by clicking the "Plug-In" button in the Automation Enable window. (This button will highlight when it is enabled.)



Click the "automation" button to access the Plug-In Automation dialog



The Plug-In Automation dialog allows you to choose the D-Verb Plug-In parameters that you wish to automate

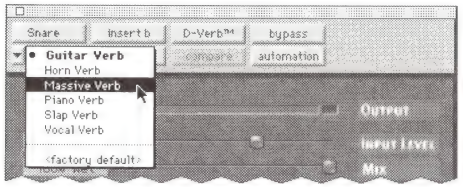
3

Keyboard Shortcuts

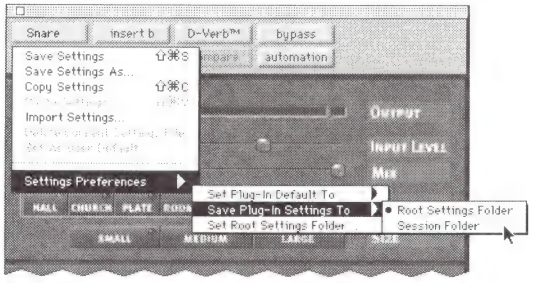
- Command-Option-Control-click a specific parameter in the Inserts/Sends Editor to access the *Plug-In Automation* dialog. The selected parameter will appear highlighted in the dialog.
- Command-Option-Control-click an Insert in the Mix window. The *Plug-In Automation* dialog will appear for the selected Plug-In.
- Command-Option-Control-click a track's *Display Format* pop-up in the Edit window to access the *Plug-In Automation* dialog.

Saving, Importing, Copying, and Pasting D-Verb Settings

Pro Tools allows you to copy, paste, save, and import real-time TDM Plug-In settings (and some file-based *AudioSuite Plug-Ins* settings) using Pro Tools' Plug-In *Librarian* and Plug-In *Settings* pop-up menus. This makes it easy to create your own library of commonly used D-Verb settings. In addition, you can choose to have these settings available in all sessions, or specifically in a particular session.



The Librarian pop-up menu



The Settings pop-up menu

Once you create and save settings files to disk (and let Pro Tools know where to look for them by assigning their "root" folder) they will appear in the *Librarian* pop-up in the Inserts/Sends Editor. This provides fast, easy access to your library of Plug-In settings. You can save your Plug-In Library to a permanent location that you specify, or you can save the settings in use in the current session to a Plug-In Settings folder that Pro Tools will automatically create for you. You can also save settings to a location such as a floppy disk or a hard drive on a remote network.

Keep in mind that Pro Tools always saves the current settings of your Plug-Ins with your session. The librarian functions merely allow you to additionally access a permanent collection of settings for use in any session.

Setting a Destination Folder for Saved Settings

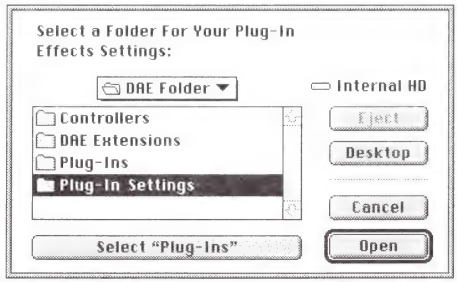
Before you save any D-Verb settings, you should set the destination folder for the settings files. To do this:

To set the destination folder for Plug-In settings files:

1. Make sure the Inserts/Sends Editor is open and that the desired D-Verb Plug-In is displayed.
2. Click the *Settings* pop-up menu and choose *Save Plug-In Settings To*. From the sub menu, choose either *Session's Plug-In Settings Folder* or *Root Settings Folder*.
3. If you choose to save your settings to your *Root Settings* folder, Pro Tools will save your files to the *Plug-In Settings* folder within your DAE Folder. If you wish to set an entirely different folder, you must tell Pro Tools which folder this is. To do this:

To set your Root Settings folder:

1. Click the Settings pop-up menu and choose *Settings Preferences*. From the sub menu, choose *Set Root Settings Folder*. This dialog appears:



The Set Root Settings Folder dialog

2. Normally Pro Tools will automatically select the *Plug-In Settings* folder within your DAE folder (the DAE folder resides inside the System Folder on your Startup Drive). This is a very convenient location for storing settings. However, if you wish, you can choose a different folder. In this dialog locate and select the folder that you wish to use as your *Root* folder and click the *Select "(your folder's name)"* button. Pro Tools will store all saved settings files there.

You are now ready to save your Plug-Ins' settings.

Saving Plug-In Settings

The *Save Settings* command allows you to save D-Verb's current settings to the destination folder you have chosen with the *Save Plug-In Settings To* command.

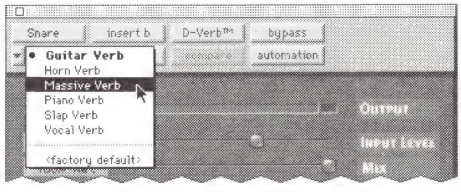
To save a Plug-In's settings:

1. Make sure the Inserts/Sends Editor is open and that D-Verb's parameters are set as you wish.
2. From the *Settings* pop-up menu, choose *Save Settings* (or press Command-Shift-S). A *Save* dialog appears, allowing you name the settings file. If you wish, you can also use this dialog to navigate to a different location to save your settings, or create a new folder destination for the file.
3. In the dialog, enter a name for the settings file.
4. Click *OK*. Pro Tools saves D-Verb's current parameter settings to the destination folder you specified earlier with the *Save Plug-In Settings To* command.

Once you have saved D-Verb settings files to disk (and let Pro Tools know where to look for them by assigning their *root* folder) they will appear in the *Librarian* pop-up in the Inserts/Sends Editor.

To recall settings saved in the root folder:

1. Make sure D-Verb is on the desired track in the Inserts/Send editor.
2. Click the *Librarian* pop-up menu and select the desired settings file. Pro Tools applies the selected settings to the currently displayed Plug-In.



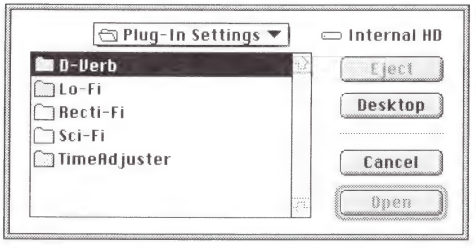
The Librarian pop-up menu

Importing Plug-In Settings

Once you have saved D-Verb Plug-In settings files to disk, you can import and use them at any time. In most cases this will not be necessary, since Pro Tools manages these settings files and makes them available for you. However, you may need to do this if you have moved your settings files to folders other than your *root* destination folder, or if you keep banks of settings files on another hard disk, floppy disk, or removable media.

To import a Plug-In settings file:

1. Make sure the Inserts/Sends Editor is open and that D-Verb is displayed on the desired track.
2. From the *Settings* pop-up menu, choose *Import Settings*. This dialog appears:



The Import Settings dialog

3. In the dialog, locate the desired settings file and click *Open*. Pro Tools loads the previously saved parameters into the Effects/Sends Editor where they are applied to the currently selected track.

4. Pro Tools will automatically create a copy of your imported settings file, and will save the copied settings file to disk in your current *root* destination folder for future use.

Copying Plug-In Settings

The *Copy Settings* command allows you to copy the settings from one Plug-In so that you can then paste them into another.

To copy a Plug-In's settings:

1. Make sure the desired Plug-In is open and displayed.

2. From the *Settings* pop-up menu, choose *Copy Settings* (or press Command-Shift-C). Pro Tools copies the settings of the currently displayed Plug-In.

Pasting Plug-In Settings

Once you have copied a Plug-In's settings, you can paste them into a destination Plug-In of the same type.

To paste a Plug-In's settings:

1. Make sure the Inserts/Sends Editor is open and that the desired destination Plug-In on the desired track is displayed.

2. From the *Settings* pop-up menu, choose *Paste Settings* (or press Command-Shift-V). Pro Tools pastes the previously copied settings into the destination Plug-In.

Creating Custom *User Default* Plug-In Settings

The *Set As User Default* command conveniently allows you to create a custom setting for any specific category of Plug-In and use those settings as the default *User Setting*. By doing this, your custom *User Setting* will always be available in the Librarian pop-up menu in the Inserts/Sends Editor. In addition, if you wish, you can use the *Set Plug-In Default To* command to have the Plug-In default to your custom settings whenever you first place it on a track. This feature is a real time-saver if you regularly use a particular setting, since it saves you the trouble of loading it each time you wish to use it.

To create a custom User Default setting:

1. Make sure the Inserts/Sends Editor is open and that the desired Plug-In is displayed.

2. Set the Plug-In's controls as you wish.

3. From the Settings pop-up menu, choose *Set As User Default*. Pro Tools defines the current settings as User Default for that type of Plug-In.

4. If you wish for the Plug-In to always open with these settings each time you initially place it on a track, choose *Set Plug-In Default to* from the Settings pop-up menu, and then choose the *User Setting* sub-command. Pro Tools will use your User Settings as the default parameters for the chosen Plug-In type.

Using D-Verb as an AudioSuite Plug-In

The final sections of this User's Guide explain how to use the AudioSuite version of the D-Verb Plug-In for file-based processing. Unlike real-time TDM Plug-Ins, AudioSuite Plug-Ins are not used during playback, but are instead performed on an audio file to process it *destructively*, creating a new file with the audio data permanently changed. The original file is retained in the Audio Regions List unless you choose otherwise.

If you need more detailed instructions about the how and why of using AudioSuite Plug-Ins, please refer to the *Working with Plug-Ins* chapter of your Pro Tools User's Guide. There you'll find a comprehensive guide to the Plug-In related features and functions of the Pro Tools software. Because AudioSuite Plug-Ins can be used to permanently modify your source audio files on hard disk, it is very important that you understand how to use them before you process any audio.

A Note About Using D-Verb in Stereo

The D-Verb AudioSuite Plug-In can be used in either mono or stereo. If you plan to use it in stereo, there are a few points you should be aware of:

- If you wish to process a mono track and obtain a stereo result, select the desired track/region *plus an empty* track/region, then select the *stereo* version of D-Verb from the pop-up menu. When you process the audio, the result will be two tracks/regions which represent the right and left channels of the processed audio. You should then pan these tracks hard right and hard left in your mix.
- If you choose to use the D-Verb Plug-In in *stereo* mode, and then select an odd number of Pro Tools tracks for processing (as opposed to an even number), D-Verb will process the selected tracks *in pairs*, in stereo. However, the last odd (unpaired) track will be processed as *mono*, using the *left* channel settings of the stereo D-Verb Plug-In. If you wish the last track to be processed in stereo, you must select an additional track to pair it with — an empty one if necessary.

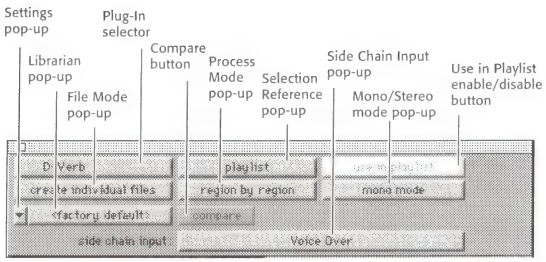
When you use D-Verb in stereo mode, a *sum inputs* button appears. If you click and enable this button, D-Verb will sum the dry input signals (regardless of whether the input is mono or stereo) before processing them. The result is that the dry signal will appear in the center of the stereo field, and the wet, effected signal will be output in stereo.

The Sum Inputs Button sums the dry input signal(s) before processing

A Note About the "Preview" Function

The AudioSuite Plug-In window's *Preview* button conveniently allows you to preview a Plug-In's effect before you process the audio. Before you use this button, there are a few points you should be aware of:

- The performance of the *Preview* function depends on the speed of your Power Macintosh CPU. Faster computers are able to preview AudioSuite effects better than slower computers.
- The *Preview* function's output level is always at full volume. It is not controlled by the fader level of tracks containing the selected regions.
- Regardless of how many tracks/regions are currently selected, the *Preview* button will only play the *first* selected track if a Plug-In is in *mono* mode, or the first *two* consecutive tracks if the Plug-In is in *stereo* mode.

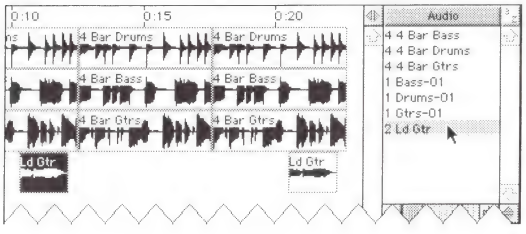


D-Verb AudioSuite Processing Parameters

Please note that the "Preview" function always routes audio to channels 1-2 of the Audio Interface.

To process a region with the D-Verb AudioSuite Plug-in:

1. Select the desired regions in the target track(s) and/or in the Audio Regions List.
2. Choose the desired D-Verb Plug-In (*mono* or *stereo)* from the *mono/stereo mode* pop-up on the Plug-in.
3. Set D-Verb's parameters to achieve the effect that you wish.
4. The *Input Level* and *Output Level* controls allow you to adjust the level of the processed signal. However, be careful not to set this too high or the processed signal will clip. Extremely high feedback settings or reverb decay times may also result in clipping.
5. Click the *Preview* button to audition the effect.
6. Set D-Verb's AudioSuite processing parameters as you wish. These settings will determine how the file is processed and what effect the processing will have on the original region(s). Here are some guidelines:
   - To process the selected region only in the track in which it appears, choose *playlist* from the *Selection Reference* pop-up. Alternatively, if you wish to process the selected region in the Regions list only, choose *region list* from the *Selection Reference* pop-up.
   - If you wish to process and update *every* occurrence of the selected region throughout your session, click and enable the *use in playlist* button (and also choose *region list* from the *Selection Reference* pop-up). Alternatively, if you *do not* wish to update every occurrence of the selected region, disable the *use in playlist* button.
   - To configure a Plug-In for destructive processing, choose *overwrite files* from the File Mode pop-up menu. This will overwrite and permanently modify the original source audio files.
   - Alternatively, to configure D-Verb for non-destructive processing, choose *create individual files* from the File Mode pop-up menu. This will create new audio files that have been processed with the AudioSuite Plug-in and leave the original source audio files untouched.
   - Or, if you have selected multiple regions for processing and wish to create a new file that connects and consolidates all of these regions together, choose *create continuous file* from the File Mode pop-up menu.
7. Click the *Process* button. Pro Tools processes the selected audio according to the settings you have specified. Pro Tools appends an acronym to the region's name indicating the AudioSuite process that has been applied. The new audio files then appear in your session.



Selecting a region in the Regions List

Choosing the Selection Reference

Choosing the File Mode

Choosing the Process Mode

Automatic Region Creation on Partial Selections

AudioSuite Plug-Ins can be applied to whole regions, partial regions, or selections made up of whole and partial regions, across one or more tracks. When audio selected in the Edit window includes partial regions, the regions will automatically be split into two or more regions when they are processed. Processing will occur only on the selection, leaving other regions unchanged.

User Tips

- You may wish to group tracks that consist of stereo pairs. This will allow you to quickly select them on-screen.
- Name stereo pairs with suffixes such as " L/ R" (for example, "*Drums.L*" and "*Drums.R*"). This will keep pairs of audio files/regions together in the Regions List, and make it easy to select them for AudioSuite processing.

3

This concludes your D-Verb User's Guide. You should now have the knowledge you need to put the D-Verb Plug-In to good use in your Pro Tools sessions.

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FEATURES

- High-quality 24-bit reverberation/ambience processing for Pro Tools® TDM & AudioSuite systems – Everything you need in reverb processing for far less than a stand-alone unit of similar quality.
- Operates as a standard "Plug-In" within the Pro Tools® environment – stay in the digital domain with the all-digital signal/mix path.
- AudioSuite included D-Verb now supports AudioSuite for file-based processing.
- Multiple preset algorithms with per-channel adjustable parameters for pre-delay, decay time, diffusion, etc. Select the effect you need from large spaces to small rooms to special effects.
- Easily updateable – no hardware upgrades necessary for increased features/functionality.
- Use D-Verb to add reverb to multiple channels/tracks. You get multiple reverbs for the price of one software Plug-In.

SYSTEM REQUIREMENTS

- PCI- or NuBus-based Pro Tools system.
- Each D-Verb™ TDM instance requires a single DSP Farm chip for operation.

* *AudioSuite functionality of D-Verb requires PowerPC™- based Macintosh & Pro Tools v4.0 (or higher).*

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